

Application Serial No. 10/687,280
Reply to Final Office Action of November 2, 2005

AMENDMENTS TO THE CLAIMS

The following listing of Claims will replace all prior versions, and listings, of --
claims in the application:

LISTING OF CLAIMS:

1. (Canceled).
2. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, further comprising a lens guidance assembly, wherein the lens assembly is moved along the lens guidance assembly to focus the target image on the image sensor.
3. (Original) The imaging apparatus as recited in claim 2, wherein the lens guidance assembly comprises a pair of living hinges.
4. (Original) The imaging apparatus as recited in claim 2, wherein the lens guidance assembly comprises a cylindrical bushing.
5. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, wherein the image sensor comprises a charge coupled device.
6. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, wherein the at least one two piezo actuator ~~assembly assemblies~~ comprises comprise a piezo

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actuator, ~~a tip extending from a distal end of the piezo actuator~~ and a spring positioned adjacent a proximal end of the piezo actuator.

7. (Currently amended) The imaging apparatus as recited in claim 6, wherein the tip of each of the at least two piezo actuator assemblies extends from a distal end of the piezo actuator and is in contact with the lens assembly such that movement of the tip causes movement of the lens assembly.

8. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, wherein the optical information comprises an array of pixel information.

9. (Original) The imaging apparatus as recited in claim 8, wherein the array of pixel information is two-dimensional.

10. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, wherein at least one of the at least one two piezo actuator assembly assemblies is positioned adjacent to the lens assembly.

11. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, further comprising control and logic circuitry for processing the electronic signals produced by the image sensor.

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12. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, wherein at least one of the at least one two piezo actuator assembly assemblies is configured to automatically move the lens assembly to focus the target image on the image sensor.
13. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, wherein the target image is a barcode.
14. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, wherein the imaging apparatus is configured to be less than two cubic inches in volume.
15. (Currently amended) The imaging apparatus as recited in ~~claim 1~~ claim 16, further comprising an illumination source for illuminating a target area.
16. (Currently amended) ~~The imaging apparatus as recited in claim 1, further comprising~~ An imaging apparatus comprising:
an image sensor for producing electronic signals corresponding to optical information representative of a target image;
a lens assembly for focusing the target image on the image sensor; and
at least two piezo actuator assemblies configured in opposing directions and in contact with a longitudinal flange extending from the lens assembly such that movement of tips of the piezo actuator assemblies causes movement of the lens assembly via the flange, wherein the at least two piezo actuator assemblies are configured to each receive a control signal for causing movement of the tips.

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17. (Currently amended) The imaging apparatus as recited in claim 2, ~~further comprising wherein the~~ at least two piezo actuator assemblies ~~configured in opposing directions and are~~ in contact with the lens guidance assembly such that movement of the at least one piezo actuators actuator assembly causes movement of the lens assembly.

18 -20. (Canceled).

21. (Original) A method of focusing an image with an imaging apparatus, the method comprising the steps of:

- determining a distance between the imaging apparatus and a target image;
- correlating the determined distance to the target image to a position of a lens guidance assembly;
- determining a current position of a lens assembly with respect to the position of the lens guidance assembly;
- determining an amount of distance that the lens assembly needs to be moved to focus the target image on an image sensor; and
- moving the lens assembly the determined amount of distance, to focus the target image on the image sensor, wherein the lens assembly is moved a determined distance via a piezo actuator assembly to focus the target image on the image sensor.

22. (Canceled).